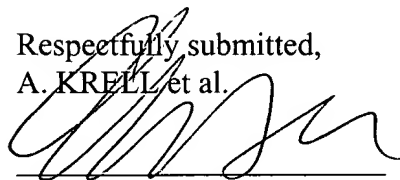


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Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

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GREENBLUM & BERNSTEIN, P.L.C.
1941 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

Respectfully submitted,
A. KRELL et al.


Neil F. Greenblum
Reg. No. 28,394

Reg. No. 33,097

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APPENIDX

Marked-Up Copy Of Amended Claims

3. (Amended) Process according to claim 1 [or 2] in which the calcination is carried out at temperatures of 400 to 600°C for 0.5 to 2 h and the annealing for the formation of corundum is carried out by a temperature increase to 650 - 900°C for 0.5 to 1 h.

4. (Amended) Process according to claim 1 [or 2] in which the transitional aluminum oxides and/or corundum are ground.

5. (Amended) Process according to claim 1 [or 2] in which the grinding of the transitional aluminum oxides and/or corundum is carried out in an organic liquid.

8. (Amended) Process according to claim 1 [or 2] with which after the aging of the solution or the sol, a gel formation or a liquid shaping is carried out, subsequently the drying, calcination and annealing take place and after the annealing a sintering is carried out at temperatures above the corundum formation temperature.

9. (Amended) Process for coating porous or dense metallic substrates, in which the particles of the hydrolyzed sol, [produced according to claim 1 or 2,] or the particles of a suspension of nanocorundum, produced according to [one of the claims 1 to 5] claim 1 is deposited on the metallic substrates electrophoretically and subsequently subjected to an annealing.

10. (Amended) Process for the production of sintered porous or dense corundum layers according to claim 1 [or 2], in which after the aging the solution or the sol is applied to a substrate and afterwards the drying, calcination and annealing are carried out.

12. (Amended) Process according to [one of the claims 10 or 11] claim 10, in which after the annealing for corundum synthesis a sintering is carried out at temperatures above the corundum formation temperature.

13. (Amended) Process according to [one of the claims 10 to 12] claim 10, in which after the annealing at least one further coating and at least one further annealing is carried out.

14. (Amended) Al_2O_3 sintered products, produced according to [at least one of the claims 8, 10, 11, 12 or 13] claim 8, in which through annealing at 650 to 1250°C, there is a phase composition of more than 80% corundum and an average pore size of 10 - 100 nm with a porosity

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of $\geq 30\%$ by volume.

15. (Amended) Dense sinter corundum layers, produced according to [one of the claims 1 to 5 and 8 to 13] claim 1, on a materially different type of substrate, in which through sintering at a temperature of $\leq 1250^{\circ}\text{C}$ there is an average grain size of the structure of $\leq 0.5\ \mu\text{m}$.

18. (Amended) Process for the production of nanoporous layers according to claim 16 [or 17], in which after aging the solution or the sol is applied to a substrate and afterwards the drying and calcination are carried out.

20. (Amended) Process according to [one of the claims 16 to 19] claim 16, in which nuclei of a transitional aluminum oxide are added to the solution or to the sol.

21. (Amended) Process for coating porous or dense metallic substrates, in which the particles of the hydrolyzed sol, [produced according to claim 16 or 17,] or the particles of a suspension of the nano porous aluminum oxide produced according to claim 16 [or 17] is deposited on the metallic substrates electrophoretically.

23. (Amended) Nanoporous Al_2O_3 sintered products, produced according to [at least one of the claims 16 to 22] claim 16, with which there is an average pore diameter in the range between 0.5 and 2.5 nm at a porosity of $\geq 30\%$ by volume.